



IFW

PTO/SB/21 (05-03)

Approved for use through 04/30/2003. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paper Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

<b>TRANSMITTAL FORM</b> <i>(to be used for all correspondence after initial filing)</i>	Application Number	10/621,897	
	Filing Date	Jul 17, 2003	
	First Named Inventor	Jacobson, Joseph M.	
	Art Unit	1711	
	Examiner Name		
Total Number of Pages in This Submission	282	Attorney Docket Number	056754/0119588

ENCLOSURES (check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): IDS cover letter Copies of non-patent references
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Norma E. Henderson Hinckley, Allen & Snyder LLP
Signature	
Date	May 20, 2004

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.			
Type or printed	Norma E. Henderson		
Signature		Date	May 20, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

In you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Jacobson et al.

Serial No.: 10/621,897

Filed: 7/17/2003

Title: Templated Monolayer Polymerization  
and Replication

Attorney Docket No.: 056754/0119588

Group Art Unit:

1711

Examiner:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Dear Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of international application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:  
☐ Statement under 37 CFR 1.97(e), or  
☐ a \$180.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97(d) together with a:  
☐ Statement under 37 CFR 1.97(e), and  
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).  
(Filed after final action or notice of allowance, whichever occurs first, but before payment of the issue fee)

☒ Applicant(s) submit herewith Form PTO 1449-Information Disclosure Citation together with copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

The relevance of the attached references is that this is the closest art of which Applicant is aware.

Applicant submits that the above references taken alone or in combination neither anticipate nor render obvious the present invention. Consideration of the foregoing in relation to this application is respectfully requested.

It is requested that the information disclosed herein be made of record in this application.

Respectfully submitted,


I hereby certify that this Correspondence is being deposited with the United States Postal service with sufficient postage for first class mail in an envelope address to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or the correspondence is being facsimile transmitted to the USPTO, on the date indicated below.

Date of Deposit: 5/20/2004

Typed Name: Norma E. Henderson

Signature: Norma E. Henderson

☐



Norma E. Henderson  
Attorney/Agent for Applicant(s)  
Reg. No. 39,219

Date: May 20, 2004

Telephone No.: 603-225-4334

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			<b>Complete if Known</b>		
			Application Number	10/621,897	
			Filing Date	7/17/2003	
			First Named Inventor	Jacobson, Joseph M.	
			Art Unit	1711	
			Examiner Name		
Sheet	2	of	5	Attorney Docket Number	056754/0119588

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	L1	AHMED, F.R. et al., "Bis(Diacetylene)s I: Langmuir-Blodgett Films," <i>Thin Solid Films</i> , 1990, 141-153, Vol. 187.	
	L2	ALAMI, Mouâd et al., "A Convenient Route to Unsymmetrical Conjugated Dienes," <i>Tetrahedron Letters</i> , 1996, 2763-2766, Vol. 37:16.	
	L3	ARCHER, Eric A. et al., "Nanostructured Polymer Duplexes via the Covalent Casting of 1-Dimensional H-Bonding Motifs: A New Strategy for the Self-Assembly of Macromolecular Precursors," <i>J. Am. Chem. Soc.</i> , 2000, 5006-5007, Vol. 122:20.	
	L4	BATCHELDER, D.N. et al., "Self-Assembled Monolayers Containing Polydiacetylenes," <i>J. Am. Chem. Soc.</i> , 1994, 1050-1053, Vol. 116:3.	
	L5	BOAL, Andrew K. et al., "Binary and Ternary Polymer-Mediated "Bricks and Mortar" Self-Assembly of Gold and Silica Nanoparticles," <i>Adv. Funct. Mater.</i> , December 2001, 461-465, Vol. 11:6.	
	L6	CHAN, Kwok C., et al., "Polymeric Self-Assembled Monolayers. 3. Pattern Transfer by Use of Photolithography, Electrochemical Methods, and an Ultrathin Self-Assembled Diacetylenic Resist," <i>J. Am. Chem. Soc.</i> , 1995, 5875-5876, Vol. 117:21.	
	L7	CRISP, Geoffrey T. et al., "Preparation of Biological Labels with Acetylenic Linker Arms," <i>Tetrahedron</i> , 1997, 1505-1522, Vol. 53:4.	
	L8	FULLAM, Stephen et al., "Carbon Nanotube Templated Self-Assembly and Thermal Processing of Gold Nanowires," <i>Adv. Mater.</i> , October 2, 2000, 1430-1432, Vol. 12:19.	
	L9	KIM, Taisun et al., "Polymeric Self-Assembled Monolayers. 2. Synthesis and Characterization of Self-Assembled Polydiacetylene Mono- and Multilayers," <i>J. Am. Chem. Soc.</i> , 1995, 3963-3967, Vol. 117:14.	
	L10	KOHLI, P. et al., "Applying Polymer Chemistry to Interfaces: Layer-by-Layer and Spontaneous Growth of Covalently Bound Multilayers," <i>Langmuir</i> , 2000, 4655-4661, Vol. 16:10.	
	L11	KOHLI, P. et al., "Assembly of Covalently-Coupled Disulfide Multilayers on Gold," <i>J. Am. Chem. Soc.</i> , 11962-11968, 1998, Vol. 120:46.	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			<b>Complete if Known</b>		
			Application Number	10/621,897	
			Filing Date	7/17/2003	
			First Named Inventor	Jacobson, Joseph M.	
			Art Unit	1711	
Examiner Name					
Sheet	3	of	5	Attorney Docket Number	056754/0119588

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	L12	LEE, Seok-Won et al., "Molecular Adsorption of <i>n</i> -Alkyl Amines, Carboxylic Acids, and Amides onto Well-Defined, Polar Organic Surfaces," <i>Israel Journal of Chemistry</i> , 2000, 99-106, Vol. 40.	
	L13	LEFF, Daniel V. et al., "Synthesis and Characterization of Hydrophobic, Organically-Soluble Gold Nanocrystals Functionalized with Primary Amines," <i>Langmuir</i> , 1996, 4723-4730, Vol. 12:20.	
	L14	LEWIS, Penelope A. et al., "The Role of Buried Hydrogen Bonds in Self-Assembled Mixed Composition Thiols on Au{111}," <i>J. Phys. Chem. B</i> , 2001, 10630-10636, Vol. 105:43.	
	L15	LI, Xiaoyu et al., "DNA-Catalyzed Polymerization," <i>J. Am. Chem. Soc.</i> , 2002, 746-747, Vol. 124:5.	
	L16	LIBIOULLE, Laurent et al., "Contact-Inking Stamps for Microcontact Printing of Alkanethiols on Gold," <i>Langmuir</i> , 1999, 300-304, Vol. 15:2.	
	L17	MAOZ, Rivka et al., "Self-replicating amphiphilic monolayers," <i>Nature</i> , November 14, 1996, 150-153, Vol. 384.	
	L18	MAOZ, Rivka et al., "Targeted Self-Replication of Silane Multilayers," <i>Adv. Mater.</i> , 1998, 580-584, Vol. 10:8.	
	L19	MATSUI, Hiroshi et al., "Bolaamphiphile Nanotube-Templated Metallized Wires," <i>J. Phys. Chem. B.</i> , 2000 9576-9579, Vol. 104:41.	
	L20	MATSUMOTO, Jin et al., "Molecular Recognition and Photopolymerization of Nucleobase Monolayer Containing Diacetylene Group at the Air-Water Interface," <i>Chemistry Letters</i> , 2000, 1280-1281.	
	L21	MIURA, Yoshiko et al., "Multilayer formation of oriented helical peptides glued by hydrogen bonding," <i>Thin Solid Films</i> , 2001, 59-65, Vol. 393.	
	L22	MORIGAKI, Kenichi et al., "Patterning Solid-Supported Lipid Bilayer Membranes by Lithographic Polymerization of a Diacetylene Lipid," <i>Angew. Chem Int. Ed.</i> , 2001, 172-174, Vol. 40:1.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). \*Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	10/621,897
		Filing Date	7/17/2003
		First Named Inventor	Jacobson, Joseph M.
		Art Unit	1711
Examiner Name			
Sheet 4	of 5	Attorney Docket Number	056754/0119588

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	L23	MUSICK, Michael D. et al., "Metal Films Prepared by Stepwise Assembly. 2. Construction and Characterization of Colloidal Au and Ag Multilayers," <i>Chem. Mater.</i> , 2000, 2869-2881, Vol. 12:10.	
	L24	NARAYANA RAO, M. Lakshmi et al., "A Simple Convenient Method for the Synthesis of 1-Iodoalkynes," <i>Synthetic Communications</i> , 1995, 2295-2299, Vol. 25:15.	
	L25	NUZZO, Ralph G. et al., "Fundamental Studies of Microscopic Wetting on Organic Surfaces. 1. Formation and Structural Characterization of a Self-Consistent Series of Polyfunctional Organic Monolayers," <i>J. Am. Chem. Soc.</i> , 1990, 558-569, Vol. 112:2.	
	L26	PALACIN, Serge et al., "Building Two-Dimensional Polymers by the Langmuir-Blodgett Technique," <i>Thin Films</i> , 1995, 69-82, Vol. 20.	
	L27	RINGS DORF, Helmut et al., "Molecular Architecture and Function of Polymeric Oriented Systems: Models for the Study of Organization, Surface Recognition, and Dynamics of Biomembranes," <i>Angew. Chem. Int. Ed. Engl.</i> , 1988, 113-158, Vol. 27.	
	L28	SAITO, Noriko et al., "Low-Temperature Fabrication of Light-Emitting Zinc Oxide Micropatterns Using Self-Assembled Monolayers," <i>Adv. Mater.</i> , 2002, 418-421, Vol. 14:6.	
	L29	SHIMOMURA, M. et al., "DNA-mimetics: towards novel molecular devices having molecular information," <i>Synthetic Metals</i> , 2003, 473-475, Vol. 133-134.	
	L30	SIJBESMA, Rint P. et al., "Reversible Polymers Formed from Self-Complementary Monomers Using Quadruple Hydrogen Bonding," <i>Science</i> , November 28, 1997, 1601-1604, Vol. 278.	
	L31	STROOCK, Abraham D. et al., "Synthesis of Free-Standing Quasi-Two-Dimensional Polymers," <i>Langmuir</i> , 2003, 2466-2472, Vol. 19:6.	
	L32	TIEKE, B. et al., "Polymerization of Tricosanoic Acid in Multilayers," <i>Angew. Chem. Int. Ed. Engl.</i> , 1976, 764-765, Vol. 15:12.	
	L33	TILLMAN, Nolan et al., "Formation of Multilayers by Self-Assembly," <i>Langmuir</i> , 1989, 101-111, Vol. 5:1.	

Examiner Signature	Date Considered
--------------------	-----------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>			
		Application Number	10/621,897		
		Filing Date	7/17/2003		
		First Named Inventor	Jacobson, Joseph M.		
		Art Unit	1711		
Examiner Name					
Sheet	5	of	5	Attorney Docket Number	056754/0119588

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	L34	VIANA, A.S. et al., "Electrochemical, spectroscopic and SPM evidence for the controlled formation of self-assembled monolayers and organised multilayers of ferrocenyl alkyl thiols on Au(111)," <i>Phys. Chem. Chem. Phys.</i> , 2001, 3411-3419, Vol. 3.	
	L35	WALKER, Caroline H. et al., "Synthesis and Size Control of Gold Nanoparticles Stabilized by Poly(methylphenylphosphazene)," <i>J. Am. Chem. Soc.</i> , 2001, 3846-3847, Vol. 123:16.	
	L36	WHALEY, Sandra R. et al., "Selection of peptides with semiconductor binding specificity for directed nanocrystal assembly," <i>Nature</i> , June 8, 2000, 665-668, Vol. 405.	
	L37	WHITLING, Jacqueline M. et al., "A Combinatorial and Informatics Approach to CdS Nanoclusters," <i>Adv. Mater.</i> , September 15, 2000, 1377-1380, Vol. 12:18.	
	L38	WUELFING, W. Peter et al., "Monolayer-Protected Clusters: Molecular Precursors to Metal Films," <i>Chem. Mater.</i> , 2001, 87-95, Vol. 13:1.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*